

# Notice of Allowability

Application No.

09/781,931

Examiner

Jonas N. Strickland

Applicant(s)

FINCKE ET AL.

Art Unit

1754

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 3/1/2004.
2. ☒ The allowed claim(s) is/are claims 1-18, 33-37, 49, 40, and 42-46.
3. ☒ The drawings filed on 12 February 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |   |   |
|---|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|   | 9 <input type="checkbox"/> Other  |

***Allowable Subject Matter***

1. Claims 1-7, 8-18, 33-37, 39, 40, and 42-46 are allowed.
2. The following is an examiner's statement of reasons for allowance: The instantly claimed invention is allowable over the cited prior art, based on the filing of a proper Terminal Disclaimer, which obviates an obviousness-type double patenting rejection over US Patent 5,749,937 and because the cited prior art fails to disclose wherein a reactant stream is introduced into an injection line at one end of axial reactor and independently introducing a heating gas into the injection line for mixture with the reactant stream and thoroughly mixing the reactant stream with the heating gas within the injection line to produce a thoroughly mixed reactant stream prior to entry into a reactor chamber.

Anderson discloses an arc torch chemical reactor, which relates to chemical reactions promoted by energy from a wall-stabilized electric arc. More particularly the process relates to an improved process and apparatus for the production of acetylene from methane, which employs a gas stream comprised of hydrogen. The reactant stream is passed through an axial reactor and mixed with a heating gas (see Figs. 1-3 and col. 4, lines 38-70). The temperature is maintained at 5000 K, which is a uniform temperature over the length of the reaction zone (col. 5, lines 40-42). Anderson continues to disclose wherein the reactor comprises an insulating layer comprised of carbon, as well as zirconia (col. 5, lines 1-6). However, Anderson does not disclose thoroughly mixing the reactant stream with a heating gas within the injection line.

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The Examiner has cited Davis et al., which teaches a process of carrying out high temperature, chemical reactions, including reductions for producing elemental metal powders using a plasma generator (see abstract). Davis et al. continues to disclose wherein the stabilizer gas (the heating gas), which is used to generate the plasma may also comprise a reactant gas (col. 5, lines 23-27). Davis et al. continues to disclose wherein the feed gas and the reactant gas are carried by the plasma into an axially extending reaction member (within an injection line; col. 5, lines 31-38). Davis et al. teaches wherein a plasma reactor may be maintained between temperature ranges of 1800°K to 5000°K.

However, as the claims have been amended, the cited prior art fails to disclose wherein a stream of heating gas is introduced independently of the reactant stream for mixing and wherein the heating gas and the reactant stream are mixed prior to entry into the reaction chamber.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 571-272-1359. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

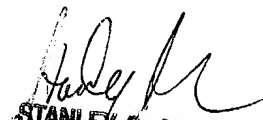
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1700.



Jonas N. Strickland  
March 18, 2004



STANLEY S. SILVERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700